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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/982,106	10/19/2001	Nitin Jain	FOUND-0008	6774

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EXAMINER	
ARTHUR JEANGLAUDE, GERTRUDE	
ART UNIT	**PAPER NUMBER**
2144	

DATE MAILED: 02/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/982,106	JAIN ET AL.	
	Examiner	Art Unit	
	Gertrude Arthur-Jeanglaude	2144	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 October 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 October 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *70102*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: In the specification at page 3, paragraph 0011, at least the word "MAC" must be explicitly described. Appropriate correction is required.

Claim Objections

Claims 2-3 are objected to because of the following informalities: the word "MAC" in claims 2,3 need to be explicitly spelled out. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Muller et al. (U.S. Patent No. 5,938,736).

As to claim 1, Muller et al. disclose a method for intelligently forwarding a content packet received at a layer 2 switch (as shown in Fig. 7A , #708) the method comprising the steps of receiving the content packet at the layer 2 switch; determining whether a multicast indicator is present in a destination address included in the content packet; and if the multicast indicator is present (See Fig. 7A # 712), then querying a forwarding

memory (140; Fig.3) based on a lookup key (search key), (See abstract) determining an outgoing port for the content packet based on the result of the querying of the forwarding memory, and forwarding the content packet to the outgoing port for subsequent delivery to a destination device (see Fig.7B) (col. 5, lines 2-15).

As to claim 2, Muller et al. disclose the step of deriving a destination MAC address from the content packet, wherein the destination MAC address serves as the lookup key to query the forwarding memory (140) (See Fig.3).

As to claim 3, Muller et al. disclose the step of querying a forwarding table within the forwarding memory based on the lookup key, wherein the forwarding table comprises at least one outgoing port index corresponding to one or more destination MAC addresses (See col. 6, lines 47-55) (It is considered that a forwarding table is used for correlating the address).

As to claim 4, Muller et al. disclose the step of extracting (remove) a source address (see col. 6, lines 50-55-col. 7, lines 1-40), a destination address (DA), a protocol type (IP) and an incoming port from the content packet to derive an explicit source lookup key, wherein the explicit source lookup key serves as the lookup key to query the forwarding memory (See col. 6, lines 56-67-col. 7, lines 1-40).

As to claim 5, Muller et al. disclose the step of querying a session table within the forwarding memory based on the lookup key, wherein the session table comprises one or more session entries, each session entry comprising a source address, a destination address, protocol type, an incoming port, and an outgoing port index (See col. 6, lines 56-67-col. 7, lines 1-40).

As to claims 6, 20, 33, Muller et al. disclose the step of creating a new entry in the forwarding memory if the result of the querying of the forwarding memory returns no match for the lookup key, wherein the new entry includes a cross-reference to the outgoing port for subsequent queries (See col. 6, lines 56-67- col. 7, lines 1-32; col. 8, lines 64-67-col. 9, lines 1-9).

As to claims 7, 24, 37, Muller et al. disclose the step of processing (Fig. 3 #305) a neighbor list to determine the outgoing port from a destination address indicated in the content packet in response to the result (See col. 7, lines 49-54).

As to claim 8, Muller et al. disclose the steps of returning an outgoing port index as the result of said querying of the forwarding memory; and querying an outgoing port lookup table to determine the outgoing port (See col. 5, lines 5-14, 58-67; col. 6, lines 1-19).

As to claims 9, 23, 36, Muller et al. disclose the step of receiving a control packet at the layer 2 switch, wherein the control packet includes at least one of a join set and a prune set for a multicast group (See col. 6, lines 47-55).

As to claim 10, Muller et al. disclose the step of modifying at least one of the forwarding memory (140) and the outgoing port lookup table in response to the control packet (See col. 6, lines 56-67; col. 8, lines 1-40).

As to claim 11, Muller et al. disclose in Fig. 7A a layer 2 switch (#708) for intelligently forwarding a content packet carrying multicast content, comprising: means for determining whether a multicast indicator is present in a destination address (DA) included in the content packet; means for querying a forwarding memory (140)

based on a lookup key (search key) (See abstract); means for determining an outgoing port for the content packet based on the result of the querying of the forwarding memory; and means for forwarding the content packet to the outgoing port for subsequent delivery to a destination device (See abstract; col. 5, lines 2-15).

As to claims 12, 25, 38, Muller et al. disclose a method and apparatus and program storage device for handling a control message from a router, the method comprising: updating a source-group data structure using information from the control message, the source-group data structure containing data regarding a multicast group; and adding an outgoing port index to said source-group table, said outgoing port index identifying a port that received the control message (see col. 6, lines 39-55) (it is considered that when the MAC address is updating, also a source group data structure is updating and output port is added to the group table (entries)).

As to claims 13, 26, Muller et al. disclose the source-group data structure is a source- group table (See col. 3, lines 38-52; col. 7, lines 7-32) (It is also considered that the logic has a group table or entries).

As to claims 14, 27 Muller et al. disclose creating an entry in an outgoing port lookup table, the entry associating the outgoing port index to the port that received the control message (See col. 8, lines 1-20).

As to claims 15, 21, 28, 34, Muller et al. disclose searching in a forwarding table for a forwarding entry having a destination hardware address matching a destination hardware address for a multicast group indicated by the control message; and updating the forwarding entry in the forwarding table if a destination hardware address

matching a destination hardware address for the multicast group is found (See col. 6, lines 63-67-col. 7, lines 1-33; col. 8, lines 6-20).

As to claims 16, 29, 39, Muller et al. disclose a method and apparatus for handling a control message from a router, the method comprising: deriving an explicit source lookup key (search key) from the control message (See abstract); retrieving an outgoing port index associated with an entry in a session data structure, the entry corresponding to the explicit source lookup key (See col. 3, lines 30-52); and updating an outgoing lookup table entry corresponding to the outgoing port index with information regarding designated devices in the multicast group indicated by the control message (See col. 6, lines 39-55).

As to claims 17, 22, 30, 35, Muller et al. disclose the session data structure is a session table (See col. 3, lines 30-52) (wherein it is considered that a number of subsystems to have a session data structure with session table).

As to claims 18, 31, 40, Muller et al. disclose a method and apparatus and a program storage device for handling a control message from a router, the method comprising: determining if the control message establishes shared source distribution trees (see Fig. 2) or explicit source distribution trees (see col. 3, lines 60-63) (the central processing system has a direct control communication interface to each subsystem for explicit source distribution); updating a source-group data structure using information from the control message (col. 6, lines 39-55), the source-group data structure containing data regarding a multicast group if the control message establishes shared source distribution trees; adding an outgoing port index to the source-group table (See

col. 6, lines 56-67- col. 7, lines 1-32; col. 8, lines 64-67-col. 9, lines 1-9) , the outgoing port index identifying a port that received the control message if the control message establishes shared source distribution trees; deriving an explicit source lookup key from the control message if the control message establishes explicit source distribution trees (See abstract); retrieving an outgoing port index associated with an entry in a session data structure, the entry corresponding to the explicit source lookup key if the control message establishes explicit source distribution trees (col. 3, lines 30-52); and updating an outgoing lookup table entry corresponding to the outgoing port index with information regarding designated devices in the multicast group indicated by the control message if the control message establishes explicit source distribution trees (See col. 6, lines 39-55).

As to claims 19, 32, Muller et al. disclose the source-group data structure is a source-group table. (See col. 3, lines 30-52) (wherein it is considered that a number of subsystems to have a session data structure with session table).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Pitcher et all. (U.S 5,790,554)

Johnson et al. (U.S 6,301,257)

Li (U.S 6,606,706)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gertrude Arthur-Jeanglaude whose telephone number is

(571) 272-6954. The examiner can normally be reached on Monday-Friday from 8:30 a.m. to 6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Cuchlinski can be reached on (571) 272-3925. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GAJ

GAJ

February 4, 2005

Gertrude A. Jeanglaude

GERTRUDE A. JEANGLAUDE
PRIMARY EXAMINER